## CLAIMS

What is claimed is:

1. An amorphous water-soluble calcium citrate salt having a mole ratio of calcium to citrate in the range of from about 1:2 to less than 2.5:2, wherein the calcium citrate salt is amorphous and water soluble and wherein the amorphous water-soluble calcium citrate salt, when dissolved in water to provide about 10 mg calcium per fluid ounce, does not form a visible haze or sediment for at least about 2 days at ambient temperatures.

2. The amorphous water-soluble calcium citrate salt according to claim 1, wherein the mole ratio of calcium to citrate is less than about 2.25:2.

3. The amorphous water-soluble calcium citrate salt according to claim 2, wherein the calcium citrate comprises a salt represented by the formula

$$Ca_n(H)_{(6-2n)}(C_6H_5O_7)_2$$

where n is less than about 2.25.

4. A calcium-fortified liquid composition comprising calcium citrate having a mole ratio of calcium to citrate in the range of from about 1:2 to less than 2.5:2 and a potable liquid in an amount effective to dissolve the calcium citrate, wherein the calcium citrate salt is amorphous and water soluble and wherein the calcium citrate salt, when dissolved in the potable liquid to provide about 10 mg calcium per fluid ounce, does not form a visible haze or sediment for at least about 2 days at ambient temperatures.

5. The calcium-fortified liquid composition according to claim 4, wherein the mole ratio of calcium to citrate is less than about 2.25:2.

6. The calcium-fortified liquid composition according to claim 4, wherein the amorphous calcium citrate is present in an amount providing at least about 3 mg calcium per fluid ounce of the calcium-fortified liquid composition.

7. The calcium-fortified liquid composition according to claim 5, wherein the amorphous calcium citrate is present in an amount providing at least about 3 mg calcium per fluid ounce of the calcium-fortified liquid composition.

8. The calcium-fortified liquid composition according to claim 4, wherein the amorphous calcium citrate is present in an amount providing about 6 mg to about 250 mg calcium per fluid ounce of the calcium-fortified liquid composition.

9. The calcium-fortified liquid composition according to claim 5, wherein the amorphous calcium citrate is present in an amount providing about 6 mg to about 250 mg calcium per fluid ounce of the calcium-fortified liquid composition.

10. The calcium-fortified liquid composition according to claim 4, wherein the liquid composition is a health drink, a flavored beverage, or a pharmaceutical liquid composition.

11. The calcium-fortified liquid composition according to claim 5, wherein the liquid composition is a health drink, a flavored beverage, or a pharmaceutical liquid composition.

12. The calcium-fortified liquid composition according to claim 4, further comprising a flavoring agent.

13. The calcium-fortified liquid composition according to claim 12, wherein the flavoring agent comprises a fruit juice concentrate, a flavor concentrate, a sweetener, or combinations thereof.

14. The calcium-fortified liquid composition according to claim 4, wherein the potable liquid comprises water.

15. The calcium-fortified liquid composition according to claim 4, the amorphous calcium citrate is present in an amount to provide at least about 1 percent of the U.S. Daily Value for calcium per eight fluid ounce serving of the calcium-fortified liquid composition; wherein the calcium-fortified liquid composition further comprises a flavoring concentrate in an amount of about 0.02 to about 20 percent; and wherein the potable liquid comprises water which is present in an amount of about 50 to about 95 percent.

16. A soluble powdered beverage mixture which can be reconstituted in a potable liquid to form a calcium-fortified beverage, said mixture comprising an amorphous water-soluble calcium citrate having a mole ratio of calcium to citrate in the range of from about 1:2 to less than 2.5:2 and a flavoring agent, wherein the calcium citrate salt is amorphous and water soluble and wherein the calcium citrate salt, when dissolved in the potable liquid to provide about 10 mg calcium per fluid ounce, does not form a visible haze or sediment for at least about 2 days at ambient temperatures.

17. The soluble powdered beverage mixture according to claim 16, wherein the mole ratio of calcium to citrate is less than about 2.25:2.

18. The soluble powdered beverage mixture according to claim 16, wherein the amorphous calcium citrate is present in an amount to providing at least about 3 mg calcium per fluid ounce of the calcium-fortified beverage.

19. The soluble powdered beverage mixture according to claim 17, wherein the amorphous calcium citrate is present in an amount providing at least about 3 mg calcium per fluid ounce of the calcium-fortified liquid composition.

20. The soluble powdered beverage mixture according to claim 16, wherein the amorphous calcium citrate is present in an amount providing about 6 mg to about 250 mg calcium per fluid ounce of the calcium-fortified liquid composition.

21. The soluble powdered beverage mixture according to claim 17, wherein the amorphous calcium citrate is present in an amount providing about 6 mg to about 250 mg calcium per fluid ounce of the calcium-fortified liquid composition.

22. A method for producing an amorphous water-soluble calcium citrate salt, comprising forming a reaction mixture by reacting a calcium compound with citric acid in an aqueous solution at a temperature of less than about 60°C to form a calcium citrate reaction product which has a mole ratio of calcium to citrate in the range of from about 1:2 to less than 2.5:2, and drying the reaction mixture effective to provide the amorphous water-soluble calcium citrate salt in solid form, wherein the amorphous water-soluble calcium citrate salt, when dissolved in water to provide to about 10 mg calcium per fluid ounce, does not form a visible haze or sediment for at least about 2 days at ambient temperatures.

23. The method of claim 22, wherein the drying is performed before the reaction mixture stands for a period of time at which a water-insoluble calcium citrate salt forms in the reaction mixture.

24. The method of claim 22, wherein the calcium compound is selected from the group consisting of calcium oxide, calcium hydroxide, calcium carbonate, and combinations thereof.

25. The method of claim 22, wherein the drying comprises freeze drying the reaction mixture.

26. The method of claim 25, further comprising comminuting the freeze-dried calcium citrate salt into powder form.

27. The method of claim 22, wherein the drying comprises spray drying the reaction mixture.

28. The method of claim 22, wherein providing the reaction mixture further comprises chilling a mixture of an aqueous slurry of the calcium compound and aqueous solution of the citric acid to a temperature below about 10°C, and spray drying the reaction mixture at the chilled temperature.

29. The method of claim 22, wherein the mole ratio of calcium to citrate is less than about 2.25:2.

30. A method for increasing the dietary calcium intake in a mammal by administering a beverage fortified with an amorphous water soluble calcium citrate to the mammal in an effective amount, wherein the amorphous water soluble calcium citrate has a calcium:citrate mole ratio in the range of from about 1:2 to less than 2.5:2, and wherein the amorphous water soluble calcium citrate salt, when dissolved in water to provide about 10 mg calcium per fluid ounce, does not form a visible haze or sediment for at least about 2 days at ambient temperatures.

31. The method according to claim 30, wherein the mammal is a human.

32. The method according to claim 31, wherein the mole ratio of calcium to citrate is less than about 2.25:2.